

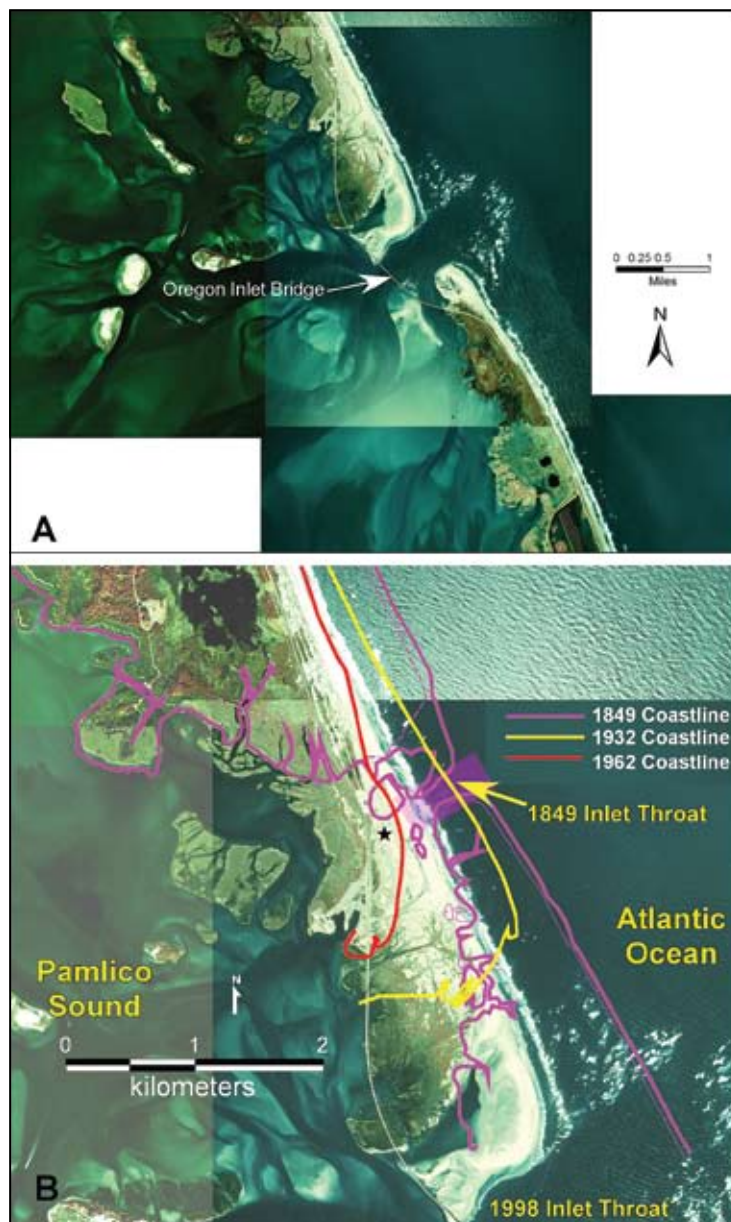
## RECENT AND PRESENTLY ACTIVE INLETS

The current active inlets along the Outer Banks of North Carolina include Oregon Inlet (opened in 1846), Hatteras Inlet (opened in 1846), Ocracoke Inlet (opened prior to 1585), New Drum Inlet (opened by the U.S. Army Corps of Engineers in 1971), New-Old Drum Inlet (opened in 1999 by Hurricane Dennis) and Ophelia Inlet (opened in 2005 by Hurricane Ophelia) (Fig. 1). Two other inlets, New Inlet (closed in 1945) and Drum Inlet (closed in 1971), were recently active and closed naturally. In addition, two inlets were recently active, but were closed by the USACE, including Isabel Inlet (opened in 2003 by Hurricane Isabel) and Buxton Inlet (opened in 1962 by the Ash Wednesday nor'easter) (Fig. 6).

### Oregon Inlet

Oregon Inlet (Figs. 9 and 10) opened by a hurricane in 1846 near the site of a previous inlet (Gun or Gunt Inlet) which closed in 1798. Between 1846 and 1989, the inlet migrated approximately 2 miles south of its original location (Fig. 9B). In 1962-1963 the Oregon Inlet Bridge was built (Fig. 10), but the inlet continued to migrate causing the throat channel to migrate from under the fixed navigation span and Pea Island to be almost severed from the bridge. Consequently, inlet dredging was increased to preserve the navigation channel, a rock jetty was emplaced on the south bank in 1989-1991, and a rock revetment was emplaced around the south base of the bridge to prevent further migration. However, the constrained location of the south bank, and the continued southward spit growth on the north bank caused Oregon Inlet to narrow and deepen. The narrower throat channel resulted in rapid scour beneath the central bridge pilings. As a result, rocks were emplaced beneath the free-hanging pilings.

Oregon Inlet is an extremely dynamic inlet which, under natural conditions, would likely continue to migrate southward. The high energy and dynamic character of the inlet conflict with the static human infrastructure (bridge and road), often pitting management policies and local interests against natural coastal dynamics. Continually shifting sand shoals and channels have necessitated increased dredging to maintain navigability for commercial and recreational vessels from nearby ports.



**Figure 9.** (A) Figure shows a 1998 aerial photograph of Oregon Inlet (NC State Database). (B) The 1998 aerial photograph of Oregon Inlet showing superimposed shorelines from 1849, 1932, and 1962 (following the 1962 Ash Wednesday storm), illustrating the large degree of shoreline variation and inlet migration.

Controversies persist with the Oregon Inlet Bridge. The bridge has exceeded its life expectancy and needs to be replaced. One option is to rebuild it at its current location, which would require continued financial expenditures to nourish the beach on Pea Island, to continually replace the constructed dune ridges and Highway 12 (which are frequently destroyed by storms) and to emplace kilometers of